REMARKS

The Invention

Claims 10-20 are pending in the application, claims 1-9 having been withdrawn as directed to a non-elected invention. The invention of claims 10-20 is directed to a curable resin composition for binding wood and wood fiber products. The resin comprises a curable phenol-aldehyde resin selected from the group consisting of resole resins and novolac resins comprising a source of free aldehyde, an effective amount of cyclic carbonate cure accelerant, and an effective amount of amine cure accelerant selected from the group consisting of polyalkylene polyamines, polyalkylene glycol polyamines, and blends thereof.

The Office Action

Claims 10-20 stand rejected under 35 U.S.C. § 102(b) as anticipated by Abstract XP-002226509 ("the Abstract"). The Examiner asserts that the specific polyamines recited in the claimed invention are included within the broad teaching related to the word 'amine' in the Abstract, "unless Applicant provide [sic] evidence that they are different."

Claims 12-13 and 18-19 stand rejected under 35 U.S.C. § 112, first and second paragraphs. The rejection based on the second paragraph is that the claims fail to particularly point out and distinctly claim the subject matter Applicant regards as the invention. The Examiner alleges that the claims are indefinite because the tri- and tetra-alkylene amines are not included in the polyalkylene polyamine amine component. The rejection based on the first paragraph alleges that the specification enables polyalkylene polyamines and polyalkylene glycol polyamines as amine cure accelerant, but does not enable "polyalkylene polyamine amine cure accelerant." The Examiner then states that use of the phrase "polyalkylene polyamine amine cure accelerant" raises problems because "it does not determine what are the difference [sic] between the polyamino group and the amino group."

Applicant respectfully traverses these rejections. The Abstract does not disclose the claimed invention, and the English-language translation of the patent upon which the Abstract is based provides evidence that the pending claims are allowable in view of this document. Further, Applicant respectfully submits that the claims satisfy 35 U.S.C. § 112, first and second paragraphs.

The Prior Art

The *Abstract* discloses addition of ethylene carbonate and an alkaline substance. Preferred alkaline substances, and indeed the only described alkaline substances, are sodium hydroxide, potassium carbonate, magnesia, calcium hydroxide, and "amines, etc." The ranges of additives are so broad as to be meaningless, and admit of having 4 parts additives to 1 part resin.

In view of the continuing rejection of the claims over the *Abstract*, Applicant respectfully submits English-language translations of JP-Sho60/090251 A (Kokai) and JP-Hei07/088460 B (the related Kokoku). These translations, which are in a single document (attached) with differences indicated side-by-side, illustrate that the document teaches nothing relevant about 'amines.' Rather, the term is merely one entry in a wish-list of basic compounds said to be cure accelerators together with ethylene carbonate. No amine is identified; no amine is exemplified. This document contains no teaching relevant to the claimed invention. Further, like the *Gerber* document, now withdrawn as a reference, this document is directed to casting resins, not to resins suitable to bind wood and wood fiber products, as claimed herein.

Remarks

Applicant respectfully traverses the rejections. The cited art neither suggests nor discloses the claimed invention. Further, the claims are enabled and specifically point out and distinctly claim the subject matter Applicant regards as the invention.

The Abstract

The Abstract does not disclose the invention as claimed. The abstract does not disclose use of polyalkylene polyamine and polyalkylene glycol polyamine cure accelerants in combination with cyclic carbonate cure accelerants in a curable resin for binding wood and wood fiber products, as required by the claims. Thus, Applicant respectfully traverses this anticipation rejection.

The English-language Translation

The translation of the underlying Japanese-language document makes clear that nothing relevant to amines and to this invention is disclosed. The document discloses that addition of ethylene carbonate and base to a thermosetting resin containing phenolic hydroxyl moieties effects cure of the resin at room temperature. Suitable bases are identified as those that

> exhibit[] basicity in water or organic solvent, and this base can be exemplified by the hydroxides and carbonates of alkali metals (e.g., NaOH, K_2CO_3, etc.), the oxides and hydroxides of alkaline-earth metals (e.g., MgO, $Ca(OH)_2$, etc.), and organic bases such as amines, etc.

Applicant respectfully submits that this disclosure teaches nothing regarding amines, and neither suggests nor discloses the claimed invention.

Further, the translation makes it clear that the resins disclosed therein are used for molding and casting, and neither suggests nor discloses that this resin is suitable to bind wood and wood fiber products, as claimed herein.

The translation is devoid of a disclosure of even a single amine that would be suitable. Whereas specific alkali metal carbonates and hydroxides are identified and specific alkaline earth metal oxides and hydroxides are identified, not a single amine is identified. Therefore, Applicant respectfully submits that this document neither suggests nor discloses that the amines recited in the claims are suitable for use in this document.

The translation contains exemplification of curing systems. There are two points to be made about these examples: first, they do not exemplify a single amine, and second, they are for casting resins, not for resins suitable for binding wood and wood fibers.

The basic compounds used in the examples are NaOH, $Ca(OH)_2$, MgO, primary sodium phosphate, and boric acid. Of nine examples, not one uses an amine, thus confirming that this document contains nothing relevant about amines.

Importantly, as was true for the resins disclosed in *Gerber*, these resins are for casting, not to bind wood and wood fibers as disclosed and claimed in the pending application. First, as the skilled practitioner recognizes, MgO typically is not soluble in such resins, and leaves particulate matter that is deleterious to resins of the type claimed in the subject invention. Indeed, as set forth in the Kokoku, at page 6 of the translation, some of the bases, including MgO, are in microparticulate form. Skilled practitioners recognize that undissolved solids are not acceptable in a resin to be used to bind wood and wood fiber products.

Second, all of the examples are molding/casting material expected to exhibit compressive strength. Examples 1-5 record the cure time required for molded resin to reach a specified compressive strength. Examples 6-9 are directed to casting resins having equal parts of resin and calcium carbonate filler. Again, the cure time required for cast resin to reach a specified compressive strength is recorded. Thus, Applicant respectfully submits that this document is not relevant to the claimed invention, and that the claims are in condition for allowance.

The Claims Are Definite and Enabled

Claims 12-13 and 18-19 stand rejected under 35 U.S.C. § 112, first and second paragraphs. The rejection based on the second paragraph is that the claims fail to particularly point out and distinctly claim the subject matter Applicant regards as the invention. The

Examiner alleges that the claims are indefinite because the tri- and tetra-alkylene amines are not included in the polyalkylene polyamine amine component.

Applicant respectfully traverses this rejection. At paragraph 20 of the specification, the listed tri- and tetra-alkylene tri- and tetra-amines are listed as preferred polyalkylene polyamines. Further, the examples are directed to polyalkylene polyamines. These polyalkylene polyamines are listed as amine cure accelerants. They are unambiguously identified in the specification, and do particularly point out and distinctly claim the subject matter applicant regards as the invention.

The rejection based on the first paragraph of 35 U.S.C. § 112 alleges that the specification enables polyalkylene polyamines and polyalkylene glycol polyamines as amine cure accelerant, but does not enable "polyalkylene polyamine amine cure accelerant." The Examiner then states that use of the phrase "polyalkylene polyamine amine cure accelerant" raises problems because "it does not determine what are the difference [sic] between the polyamino group and the amino group."

Applicant respectfully traverses this rejection. As set forth in paragraph 20, suitable amine cure accelerants include polyalkylene polyamines and polyalkylene glycol polyamines. Thus, in the claims, these compounds are identified as 'polyalkylene polyamine amine cure accelerant' to distinguish them from the polyalkylene glycol polyamine amine cure accelerants. Thus, there appears to be no question relating to differences between polyamino groups and amino groups.

CONCLUSION

Applicant respectfully submits that the cited art neither suggests nor discloses the claimed invention for the reasons set forth above. Applicant respectfully submits that the claims are in condition for allowance and earnestly solicits favorable action thereon.

Respectfully submitted,

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